



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
Environmental Sciences Center
701 Mapes Road
Fort Meade, Maryland 20755-5350

DATE : February 7, 2012

SUBJECT: Region III Data QA Review

FROM: Colleen Walling *Colleen K. Walling*
Region III ESAT RPO (3EA20)

TO: Rich Fetzer
Regional Project Manager (3HS31)

Attached is the inorganic data validation report for the Dimock Residential Groundwater site (Case #: 180-2644-01 (4 samples) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAID.

If you have any questions regarding this review, please call me at (410) 305-2763.

Attachment

TO: #0037 TDF: #01079A

cc: Gene Nancy (Techlaw)
Suddha Graves (Techlaw)

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Ex. 4 - CBI

Date: February 06, 2012

Subject: Inorganic Data Validation (IM2 Level)
Project: 180-2644-1
Site: Dimock

From: **Ex. 4 - CBI**
Inorganic Data Reviewer
Ex. 4 - CBI
Senior Oversight Chemist

To: Colleen Walling
ESAT Region 3 Project Officer

OVERVIEW

Third Party Project 180-2644-1 consisted of two (2) aqueous samples analyzed for mercury (Hg) by cold vapor technique and for total metals by ICP-MS. In addition, these samples were filtered by the laboratory and analyzed for dissolved Hg and dissolved metals. Samples were analyzed by TestAmerica Pittsburgh (TALPA) according to SW-846 Methods 7470A (Hg) and 6020 (metals).

SUMMARY

Data were validated according to Region 3 Modifications to the National Functional Guidelines for Inorganic Data Review, Level IM2, and is assigned the Superfund Data Validation Label S4VM (Stage_4_Validation_Manual). Areas of concern with respect to data usability are listed below.

Data in this case have been impacted by outliers present in laboratory blanks. Details of these outliers are discussed under "Minor Problem," specific samples affected are outlined in "Table 1A" and qualified analytical results for all samples are summarized on Data Summary Forms (DSFs).

MINOR PROBLEM

The Method (MB) and Continuing Calibration (CCBs) Blanks had reported results greater than the Method Detection Limits (MDLs) for the analytes listed below. Positive results for these analytes in affected samples which are less than five times (<5X) blank concentrations may be biased high and have been qualified "B" on the DSF.

<u>Blank</u>	<u>Affected Analytes</u>
CCB	lead (Pb), molybdenum (Mo), antimony (Sb), thallium (Tl)
MB (Total)	zinc (Zn)

NOTES

Reported results between MDLs and Reporting Limits (RLs) were qualified "J" unless superseded by "B" on the DSF.

The laboratory reported results within control limits for matrix spike/matrix spike duplicate and ICP serial dilution analyses. However, these analyses were not performed on a sample in this sample set. No action was taken by the reviewer based on this finding.

The requirement for ICP-MS and cold vapor MDLs to be performed within one (1) year of sample analysis was not met by the laboratory. No action was taken by the reviewer based on these findings.

ATTACHMENTS**INFORMATION REGARDING REPORT CONTENT**

Table 1A is a summary of qualifiers applied to the laboratory-generated results during data validation.

Table 1A	Summary of qualifiers on data summary forms after data validation
Table 1B	Codes used in comments column of Table 1A
Appendix A	Glossary of Data Qualifier Codes
Appendix B	Data Summary Form(s)
Appendix C	Chain of Custody Records
Appendix D	Laboratory Case Narrative

DCN: 180-2644-1_Metals

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION

Project: 180-2644-1

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Pb	Both samples – Total	B		High	CCB (0.0280 J ug/L)
	Both samples – Dissolved	B		High	CCB (0.0410 J ug/L)
Mo	Both samples – Total	B		High	CCB (0.454 J ug/L)
	Both samples – Dissolved	B		High	CCB (1.04 J ug/L)
Sb	Both samples – Total	B		High	CCB (0.394 J ug/L)
	Both samples – Dissolved	B		High	CCB (0.548 J ug/L)
Tl	Both samples – Dissolved	B		High	CCB (0.0240 J ug/L)
Zn	Both samples – Total	B		High	MB (2.53 J ug/L)

* See explanation of comments in Table 1B

TABLE 1B
CODES USED IN COMMENTS COLUMN

CCB	=	Continuing calibration blanks had results >MDLs [results are in parenthesis]. Positive results which are <5X blank concentrations may be biased high.
MB	=	The method blank had a result > MDL [the result is in parenthesis]. Positive results which are <5X the blank concentration may be biased high.

Appendix A

Glossary of Data Qualifier Codes

GLOSSARY OF DATA QUALIFIER CODES (INORGANIC)

CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

Q = No analytical result.

Appendix B

Data Summary Forms

DATA SUMMARY FORM: INORGANIC

Page 1 of 1

Project #: 180-2644-1

Site : DIMOCK

Lab. : TALPA

Number of Soil Samples : 0

Number of Water Samples : 4

Sample Number / Location: Analysis Type : Matrix : Units : Date Sampled : Time Sampled : Dilution Factor :		TC -1				AW -2					
		Total Metals		Dissolved Metals		Total Metals		Dissolved Metals			
		Water		Water		Water		Water			
		ug/L		ug/L		ug/L		ug/L			
		08/04/2011		08/04/2011		08/04/2011		08/04/2011			
		09:30		09:30		13:20		13:20			
		1.0		1.0		1.0		1.0			
ANALYTE	RL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
SILVER	1.0										
ALUMINUM	30	3.8	J			3.0	J				
ARSENIC	1.0	2.2		0.77	J	0.47	J				
BARIUM	10	210		210		130		130			
BORON	5.0	24		25		13		14			
BERYLLIUM	1.0										
CALCIUM	100	22000		26000		27000		31000			
CADMIUM	1.0										
COBALT	0.50	0.051	J	0.089	J	0.067	J	0.11	J		
CHROMIUM	2.0	1.3	J	3.6		2.0		4.3			
COPPER	2.0	1.1	J	0.90	J	0.64	J	0.77	J		
IRON	50	1100		27	J						
POTASSIUM	100	880		1100		1500		1800			
MAGNESIUM	100	4800		5200		7700		8200			
MANGANESE	0.50	190		200		0.42	J	0.45	J		
SODIUM	100	18000		19000		7300		8100			
NICKEL	1.0			0.51	J			0.44	J		
LEAD	1.0	0.11	B	0.14	B	0.027	B	0.092	B		
MOLYBDENUM	5.0	0.49	B	1.3	B	0.55	B	0.56	B		
ANTIMONY	2.0	0.019	B	0.65	B	0.78	B	0.23	B		
SELENIUM	5.0	0.76	J	0.55	J	0.84	J				
THALLIUM	1.0			0.025	B			0.021	B		
VANADIUM	1.0										
ZINC	5.0	2.6	B	2.8	J	4.2	B	2.3	J		
MERCURY	0.20										

RL = Reporting Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (RQ * Dilution Factor)

Revised 09/99

Appendix C

Chain of Custody Records

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Appendix D

Laboratory Case Narrative

COVER PAGE
METALS

Lab Name: TestAmerica Pittsburgh

Job Number: 180-2644-1

SDG No.:

Project: Focused Site Assessment

Client Sample ID

TC-1

AW-2

Lab Sample ID

180-2644-1

180-2644-2

Comments:

ANALYTICAL REPORT

Job Number: 180-2644-1

Job Description: Focused Site Assessment

For:

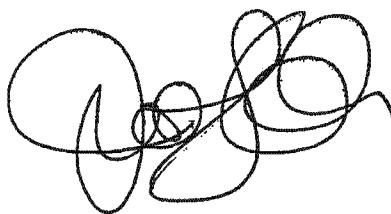
URS Corporation

Foster Plaza 4

501 Holiday Drive, Suite 300

Pittsburgh, PA 15220

Attention: Mr. James Pinta, Jr.



Approved for release:
Jill L. Colussy
Project Mgmt. Assistant
9/13/2011 8:28 AM

Designee for
Carrie L. Gamber
Project Manager II
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09/13/2011

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CASE NARRATIVE

Client: URS Corporation

Project: Focused Site Assessment

Report Number: 180-2644-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/05/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.0 and 0.7 C.

The laboratory received a broken 1L amber bottle for sample TC-1 (180-2644-1).

The laboratory only received six VOA vials for sample AW-2 (180-2644-2) instead of nine.

LOW LEVEL VOLATILE ORGANIC COMPOUNDS

Methylene Chloride and Toluene were detected in method blank MB 180-10937/3 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)

No difficulties were encountered during the semivolatiles analyses.

GAS RANGE ORGANICS

No difficulties were encountered during the GRO analyses.

GLYCOLS

Triethylene Glycol was detected in method blank MB 480-27399/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

The continuing calibration verification (CCV) (CCV 480-27383/3) for Ethylene Glycol recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

DISSOLVED GASES

The following samples submitted for dissolved gases analysis were received with incorrect preservation (pH >2): AW-2 (180-2644-2) and TC-1 (180-2644-1).

1,2-DIBROMOETHANE AND 1,2-DIBROMO-3-CHLOROPROPANE BY MICROEXTRACTION AND GAS CHROMATOGRAPHY

No difficulties were encountered during the EDB and DBCP analyses.

DIESEL RANGE ORGANICS

No difficulties were encountered during the DRO analyses.

METALS

Antimony, Boron and Molybdenum were detected in method blank MB 180-10641/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

Several analytes were detected in method blank MB 180-10417/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

GENERAL CHEMISTRY

The method blanks had compounds detected at a level that was above the method detection limit but below the reporting limit. The values should be considered an estimate, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.